Codebook

**Data Source:**

This data is from a 2023 Nature paper titled **‘Melanopic irradiance defines the impact of evening display light on sleep latency, melatonin and alertness’** by [**Isabel Schöllhorn**](https://www.nature.com/articles/s42003-023-04598-4#auth-Isabel-Sch_llhorn-Aff1-Aff2),[**Oliver Stefani**](https://www.nature.com/articles/s42003-023-04598-4#auth-Oliver-Stefani-Aff1-Aff2)**,**[**Robert J. Lucas**](https://www.nature.com/articles/s42003-023-04598-4#auth-Robert_J_-Lucas-Aff3)**,** [**Manuel Spitschan**](https://www.nature.com/articles/s42003-023-04598-4#auth-Manuel-Spitschan-Aff4-Aff5-Aff6)**,** [**Helen C. Slawik**](https://www.nature.com/articles/s42003-023-04598-4#auth-Helen_C_-Slawik-Aff7)&[**Christian Cajochen**](https://www.nature.com/articles/s42003-023-04598-4#auth-Christian-Cajochen-Aff1-Aff2) (Schöllhorn et al., 2023).

**Background:**

This research investigated the impact of evening light-emitting visual displays, like smartphones, on sleep patterns. Such devices are believed to disrupt sleep, suppress melatonin (a hormone that promotes sleepiness in response to darkness) and increase alertness. This study aimed to determine whether these beliefs held true. The plot produced for this project shows the findings for how exposure to both different light intensities and the wavelength of light (blue light or yellow light) effected the time taken to fall asleep.

**Definitions:**

**N2** – Stage 2 Non-REM sleep

**Sleep Latency [min]** - The time in minutes taken from lights off for participants to fall asleep and enter the N2 sleep stage

**Light intensity condition** - 4 different light intensities:

* Intensity 1 = ~27 cd/m2 (similar to moonlight)
* Intensity 2= ~62 cd/ m2 (similar to smartphone screen)
* Intensity 3 = ~134 cd/ m2 (similar to tablet screen)
* Intensity 4 = ~284 cd/ m2 (similar to a large computer monitor)

**HM** – High Melanopic condition with short wavelength light (blue light) suggested to suppress melatonin secretion.

**LM** – Low Melanopic condition with longer wavelength light (yellow/orange light) suggested to prevent melatonin suppression seen with blue light.

Schöllhorn, I., Stefani, O., Lucas, R. J., Spitschan, M., Slawik, H. C., & Cajochen, C. (2023). Melanopic irradiance defines the impact of evening display light on sleep latency, melatonin and alertness. *Communications Biology 2023 6:1*, *6*(1), 1–10. https://doi.org/10.1038/s42003-023-04598-4